IFWO

RAW SEQUENCE LISTING
PATENT APPLICATION: **US/10/643,775**

DATE: 09/10/2004
TIME: 13:03:28

Input Set : **D:\Sequence Listing.txt**
Output Set: **N:\CRF4\09102004\J643775.raw**

```
 4 <110> APPLICANT: Lie, Oystein
 5         Slettan, Audun
 6         Hoyum, Morten
 7         Lingaas, Frode
 9 <120> TITLE OF INVENTION: Verification of Food Origin Based on
10        Nucleic Acid Pattern Recognition
13 <130> FILE REFERENCE: 66849-019
15 <140> CURRENT APPLICATION NUMBER: US 10/643,775
16 <141> CURRENT FILING DATE: 2003-08-18
18 <150> PRIOR APPLICATION NUMBER: US 60/404,200
19 <151> PRIOR FILING DATE: 2002-08-16
21 <160> NUMBER OF SEQ ID NOS: 1377
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 219
27 <212> TYPE: DNA
28 <213> ORGANISM: Salmo salar
30 <220> FEATURE:
31 <221> NAME/KEY: misc_feature
32 <222> LOCATION: 66
33 <223> OTHER INFORMATION: n = A,T,C or G
35 <400> SEQUENCE: 1
36 aaccaaaagc acagagaccc aaataatggt gaattacata cactcagaat caacaaaagc 60
37 acagtnccac agcaagcagc tgacattaat tgaggagtcc ataaacacaa acaacttctg 120
38 gcwtaaattg gaaaaaacaa aaaaatggtg acatatggac aacccatttt aaaacactct 180
39 acaacaccat tcaaattgat gcaaacacag aacaattgt                         219
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 22
43 <212> TYPE: DNA
44 <213> ORGANISM: Salmo salar
46 <400> SEQUENCE: 2
47 taaacacaaa caacttctgg ca                                           22
49 <210> SEQ ID NO: 3
50 <211> LENGTH: 28
51 <212> TYPE: DNA
52 <213> ORGANISM: Salmo salar
54 <400> SEQUENCE: 3
55 aaaaaataaa cacaaacaac ttctggct                                     28
57 <210> SEQ ID NO: 4
58 <211> LENGTH: 24
59 <212> TYPE: DNA
60 <213> ORGANISM: Salmo salar
62 <400> SEQUENCE: 4
```

W--> (line 37)

RAW SEQUENCE LISTING   DATE: 09/10/2004
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        Input Set : D:\Sequence Listing.txt
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```
63 aaattggaaa aaacaaaaaa atgg                                    24
65 <210> SEQ ID NO: 5
66 <211> LENGTH: 291
67 <212> TYPE: DNA
68 <213> ORGANISM: Salmo salar
70 <400> SEQUENCE: 5
71 ggatggagtt ttggtgacat caccaggcaa taaattagtt aataaaccaa taagaaagag 60
72 agttcctaaa cctctctgcc aatacaagca agttttcagt ttcccctccc cacttccaga 120
73 cactcccaga ctgtcctagc aaaatgtatc tttcctaaga agctttttta gtttattttt 180
74 gacaatttca attgaaawca atcacattaa tgtacttcat taatacccag aaactatatg 240
75 atattgagat aaaaacgcct gcattggaca tttaaagaaa gcataacaga a           291
77 <210> SEQ ID NO: 6
78 <211> LENGTH: 24
79 <212> TYPE: DNA
80 <213> ORGANISM: Salmo salar
82 <400> SEQUENCE: 6
83 atttttgaca atttcaattg aaaa                                     24
85 <210> SEQ ID NO: 7
86 <211> LENGTH: 29
87 <212> TYPE: DNA
88 <213> ORGANISM: Salmo salar
90 <400> SEQUENCE: 7
91 aaaaaatttt tgacaatttc aattgaaat                                29
93 <210> SEQ ID NO: 8
94 <211> LENGTH: 24
95 <212> TYPE: DNA
96 <213> ORGANISM: Salmo salar
98 <400> SEQUENCE: 8
99 caatcacatt aatgtacttc atta                                     24
101 <210> SEQ ID NO: 9
102 <211> LENGTH: 266
103 <212> TYPE: DNA
104 <213> ORGANISM: Salmo salar
106 <400> SEQUENCE: 9
107 gtgctgagtg attagtgctt tttgaggtca gttcggtttc ggttttataa taaaaaaaat 60
108 aataatgttt tttcaatttc ggattcaata ctaatttttt ttacattaaa tgcactatgc 120
109 attacgtggg ttgaatgctg taacaacacy gaataaaaca atgaatccaa tcccaygatg 180
110 gtagagactg cccattactg cttattaacc ataatttatt cacatgacta attctgttgt 240
111 tgtgtatatt acatttgatt tatttg                                   266
113 <210> SEQ ID NO: 10
114 <211> LENGTH: 19
115 <212> TYPE: DNA
116 <213> ORGANISM: Salmo salar
118 <400> SEQUENCE: 10
119 acaatgaatc caatcccac                                          19
121 <210> SEQ ID NO: 11
122 <211> LENGTH: 24
123 <212> TYPE: DNA
124 <213> ORGANISM: Salmo salar
```

```
126 <400> SEQUENCE: 11
127 aaaaaacaat gaatccaatc ccat                                    24
129 <210> SEQ ID NO: 12
130 <211> LENGTH: 19
131 <212> TYPE: DNA
132 <213> ORGANISM: Salmo salar
134 <400> SEQUENCE: 12
135 gatggtagag actgcccat                                          19
137 <210> SEQ ID NO: 13
138 <211> LENGTH: 289
139 <212> TYPE: DNA
140 <213> ORGANISM: Salmo salar
142 <400> SEQUENCE: 13
143 caggaagaga gttgaagata gttattagga agtgcagtca ttctctttgg ttccttggtc 60
144 cttgacacac acattgtgca ttggttccct ataacatacg gagacacaga cccagaaatg 120
145 gcttctcatc tctcmctctc catcctccta ctcatcttca gactctcagg taagggtaac 180
146 atgtttctat gaagtgctga agttgaggtc agggactggg acaaatgttg gaactctgaa 240
147 gacagaagca gcagcagttt gtcttatcaa taacacttcc tgtattatg            289
149 <210> SEQ ID NO: 14
150 <211> LENGTH: 20
151 <212> TYPE: DNA
152 <213> ORGANISM: Salmo salar
154 <400> SEQUENCE: 14
155 aaatggcttc tcatctctcc                                         20
157 <210> SEQ ID NO: 15
158 <211> LENGTH: 25
159 <212> TYPE: DNA
160 <213> ORGANISM: Salmo salar
162 <400> SEQUENCE: 15
163 aaaaaaaatg gcttctcatc tctca                                   25
165 <210> SEQ ID NO: 16
166 <211> LENGTH: 21
167 <212> TYPE: DNA
168 <213> ORGANISM: Salmo salar
170 <400> SEQUENCE: 16
171 ctctccatcc tcctactcat c                                       21
173 <210> SEQ ID NO: 17
174 <211> LENGTH: 220
175 <212> TYPE: DNA
176 <213> ORGANISM: Salmo salar
178 <400> SEQUENCE: 17
179 ccactcgttt ccttcccgta tccaaaccac atggtcggcg ttccgaaggt ccaactagga 60
180 gaacatgacc gcccctgga gaggctcgga agccgaggag atgakatgta gcaggtaata 120
181 ttttttaac agtaatgtca ttaaaccca ggtagttgat acatggatgc agggtcttgt 180
182 ccttcttctc cacaaagaag aaccctgcgc tggcggggga                    220
184 <210> SEQ ID NO: 18
185 <211> LENGTH: 18
186 <212> TYPE: DNA
187 <213> ORGANISM: Salmo salar
```

```
189 <400> SEQUENCE: 18
190 ggaagccgag gagatgat                                              18
192 <210> SEQ ID NO: 19
193 <211> LENGTH: 24
194 <212> TYPE: DNA
195 <213> ORGANISM: Salmo salar
197 <400> SEQUENCE: 19
198 aaaaaaggaa gccgaggaga tgag                                       24
200 <210> SEQ ID NO: 20
201 <211> LENGTH: 24
202 <212> TYPE: DNA
203 <213> ORGANISM: Salmo salar
205 <400> SEQUENCE: 20
206 atgtagcagg taatattttt ttaa                                       24
208 <210> SEQ ID NO: 21
209 <211> LENGTH: 294
210 <212> TYPE: DNA
211 <213> ORGANISM: Salmo salar
213 <400> SEQUENCE: 21
214 aacatgacat cacaatacac atacacacac tcacatgcag acacacacac acgcaaatac 60
215 atacacacac tttgatgtat tgccttttat gttgcagtga cagggttggc actgggccta 120
216 gagcagagtg tagtttatga tggtgggtat aataggacca gttaaaaata actttatttt 180
217 caaatacaca ctcaaacaga cagaggtgac rtaatgagag gacggaagga gaagacgtaa 240
218 ggagagaacg gagaaagaga gtagagagac agaaagaagg ggagagacag tgaa        294
220 <210> SEQ ID NO: 22
221 <211> LENGTH: 24
222 <212> TYPE: DNA
223 <213> ORGANISM: Salmo salar
225 <400> SEQUENCE: 22
226 acactcaaac agacagaggt gaca                                       24
228 <210> SEQ ID NO: 23
229 <211> LENGTH: 28
230 <212> TYPE: DNA
231 <213> ORGANISM: Salmo salar
233 <400> SEQUENCE: 23
234 aaaaacactc aaacagacag aggtgacg                                   28
236 <210> SEQ ID NO: 24
237 <211> LENGTH: 23
238 <212> TYPE: DNA
239 <213> ORGANISM: Salmo salar
241 <400> SEQUENCE: 24
242 taatgagagg acggaaggag aag                                        23
244 <210> SEQ ID NO: 25
245 <211> LENGTH: 213
246 <212> TYPE: DNA
247 <213> ORGANISM: Salmo salar
249 <400> SEQUENCE: 25
250 ccaacacaaa gaaatacaca acctagaaaa tcatagagat acaaaaccag aacaatgccc 60
251 aaaaacccyg gaacacataa aacaaacacc cctcttacat aagaacatat cccaacaaac 120
```

```
252 cccaaaccac ataaaacaaa caccccctgc cacgtcctga ccaaactaca ataacaaata 180
253 accccttac tggtcaggac gtgacagcta aac                                  213
255 <210> SEQ ID NO: 26
256 <211> LENGTH: 20
257 <212> TYPE: DNA
258 <213> ORGANISM: Salmo salar
260 <400> SEQUENCE: 26
261 gaacaatgcc caaaaacccc                                                20
263 <210> SEQ ID NO: 27
264 <211> LENGTH: 25
265 <212> TYPE: DNA
266 <213> ORGANISM: Salmo salar
268 <400> SEQUENCE: 27
269 aaaaagaaca atgcccaaaa accct                                          25
271 <210> SEQ ID NO: 28
272 <211> LENGTH: 23
273 <212> TYPE: DNA
274 <213> ORGANISM: Salmo salar
276 <400> SEQUENCE: 28
277 ggaacacata aaacaaacac ccc                                            23
279 <210> SEQ ID NO: 29
280 <211> LENGTH: 313
281 <212> TYPE: DNA
282 <213> ORGANISM: Salmo salar
284 <400> SEQUENCE: 29
285 ggacctgaag aactgtaata tcctatgttt ctcagagtcg tggctgaaca aggacatgga 60
286 taatactgta tatgtacatc tarctgtttt ttctatacat tatcaagact gaacggcagc 120
287 ttcaggtaaa gtaaaggggg gaggtgtatg tatgtctctt tgttagcaac agctggcacg 180
288 caatctctaa tattaaggaa atctcaaggt tttgctcacc tgagctagaa tactcaatga 240
289 taaactgcag acaatactat ttaccgagag agttttctta tattgttttc catagctctc 300
290 tatttaccac cac                                                      313
292 <210> SEQ ID NO: 30
293 <211> LENGTH: 25
294 <212> TYPE: DNA
295 <213> ORGANISM: Salmo salar
297 <400> SEQUENCE: 30
298 gataatactg tatatgtaca tctag                                          25
300 <210> SEQ ID NO: 31
301 <211> LENGTH: 29
302 <212> TYPE: DNA
303 <213> ORGANISM: Salmo salar
305 <400> SEQUENCE: 31
306 aaaagataat actgtatatg tacatctaa                                      29
308 <210> SEQ ID NO: 32
309 <211> LENGTH: 22
310 <212> TYPE: DNA
311 <213> ORGANISM: Salmo salar
313 <400> SEQUENCE: 32
314 ctgttttttc tatacattat ca                                            22
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 09/10/2004
PATENT APPLICATION: **US/10/643,775**   TIME: 13:03:29

Input Set : **D:\Sequence Listing.txt**
Output Set: **N:\CRF4\09102004\J643775.raw**

ease Note:
e of n and/or Xaa have been detected in the Sequence Listing. Please review the
quence Listing to ensure that a corresponding explanation is presented in the <220>
<223> fields of each sequence which presents at least one n or Xaa.

```
q#:1; N Pos. 66
q#:49; N Pos. 152
q#:110; N Pos. 42,101,219,220,222,251,400
q#:164; N Pos. 128,247
q#:183; N Pos. 91
q#:207; N Pos. 536
q#:309; N Pos. 3,7,12,14,15,18,43,99,133,556,670,677,718,727,740,753,755
q#:309; N Pos. 771,794,805
q#:311; N Pos. 2,3,4,5,15,30,394,420,452,467,470,476,483,489,502,505,508
q#:311; N Pos. 515,517,519,525,534,535,541,543,548,551,552,553,554,560
q#:311; N Pos. 570,573,575,577,585,592,593,594,595,599,603,604
q#:312; N Pos. 38,231
q#:313; N Pos. 13,24,29,91,118,398,517,539,541,542,547,552,566,567,569
q#:313; N Pos. 573,576,578,579,580,591,592,597,601
q#:314; N Pos. 257
q#:316; N Pos. 6,12,28,36,490,504,510,548,551,569,573,576,577,580,599,616
q#:316; N Pos. 621,622,623,628,629
q#:317; N Pos. 2,3,4,5,6,7,10,13,19,24,28,30,31,33,36,38,40,50,72,79,82
q#:317; N Pos. 85,146,148,151,169,175,178,559
q#:318; N Pos. 493,549,614,622,627,631,632,643,683,686,706,712,719,734
q#:318; N Pos. 737,740,757,758,759,763,785,788
q#:320; N Pos. 3,6,9,20,27,35,77,105,106,549,551,578,588,592,595
q#:321; N Pos. 3,33,53,478,493,600,610,614,640,658,660,666,687,689,713
q#:321; N Pos. 714,720,740,744,758,766,767,770,772,778,795,813
q#:322; N Pos. 8,25,28,31,82,455,471,512,555,562,569,596,608,615,619,620
q#:323; N Pos. 2,3,4,5,7,12,24,660,723,726,752,753,760,766
q#:325; N Pos. 3,9,18,20,32,35,619,658,704,706,723,740,747,755,758,761
q#:325; N Pos. 791,795,810
q#:326; N Pos. 7,8,9,10,11,14,16,17,18,19,20,21,23,24,31,45,46,47,68,79
q#:326; N Pos. 84,85,86,453,467,470,473,479,489,505,513,514,517,518,519
q#:326; N Pos. 520,521,522,525,528,530,532,544,545,546,547,555,556,557
q#:326; N Pos. 558,559,560,579,592,596,602,605,608,625,630,631,632,634
q#:326; N Pos. 637,656,672,675,676,678,679,681,687,689,692,695,696,700
q#:326; N Pos. 701,708,710,712,717,718,719,728,729,730,731,732,739,740
q#:326; N Pos. 741,743,744,745,746,748,755,756,757,758,759,765,766,768
q#:326; N Pos. 769,770,771,772,773,788,789,790,791,792,799,800,802,803
q#:326; N Pos. 813,814,815,819,825,829,830,831
q#:327; N Pos. 7,9,13,20,586,619
q#:328; N Pos. 3,9,13,25,34,631,642,646,675,681,683,688,712,733,763,782
q#:328; N Pos. 786,790,792
q#:330; N Pos. 400,418,419,511,523
q#:331; N Pos. 3,4,5,12,13,14,17,30,39,463,515,532,548,616,642,649,650
q#:331; N Pos. 658,663,665,680,694,712,725,730,733,748,749,752,757,761
q#:331; N Pos. 768,771,774,775,782,785,788,804,806
```

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    Input Set : **D:\Sequence Listing.txt**
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q#:1351; N Pos. 4,5,6,8,9,11,13,17,20,22,23,28,32,38,50,53,62,97,125,127
q#:1351; N Pos. 507,510,521,523,527,531,539,545,547,548,552,563,566,567
q#:1351; N Pos. 568,575,576,579,581,584,586,587,588,589,591,593
q#:1354; N Pos. 7,497,634,647
q#:1357; N Pos. 3,4,5,6,7,8,9,10,11,13,17,19,22,26,28,31,36,38,44,47,56
q#:1357; N Pos. 617,620
q#:1360; N Pos. 7,18,29,31,33,36,570,598
q#:1369; N Pos. 17,24,43,81,383,407,427,440,584
q#:1372; N Pos. 198

valid Line Length:
e rules require that a line not exceed 72 characters in length. This includes spaces.

q#:311; Line(s) 3005
q#:321; Line(s) 3213
q#:326; Line(s) 3329,3334,3339
q#:331; Line(s) 3450
q#:351; Line(s) 3876
q#:353; Line(s) 3925
q#:362; Line(s) 4105
q#:369; Line(s) 4253
q#:420; Line(s) 5173
q#:421; Line(s) 5198
q#:428; Line(s) 5369
q#:436; Line(s) 5548,5553
q#:440; Line(s) 5656
q#:500; Line(s) 6608
q#:530; Line(s) 6953
q#:548; Line(s) 7185
q#:569; Line(s) 7443
q#:581; Line(s) 7600
q#:596; Line(s) 7785
q#:620; Line(s) 8078
q#:635; Line(s) 8270
q#:653; Line(s) 8500
q#:671; Line(s) 8723,8728,8733
q#:680; Line(s) 8853
q#:698; Line(s) 9096,9101
q#:707; Line(s) 9207
q#:788; Line(s) 10216
q#:794; Line(s) 10295
q#:797; Line(s) 10338
#:800; Line(s) 10377
#:812; Line(s) 10530
#:818; Line(s) 10613
#:827; Line(s) 10717,10722
#:923; Line(s) 11887
#:935; Line(s) 12039

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```
Seq#:986; Line(s) 12672
Seq#:1045; Line(s) 13363
Seq#:1057; Line(s) 13506
Seq#:1114; Line(s) 14191
Seq#:1120; Line(s) 14267
Seq#:1129; Line(s) 14384
Seq#:1132; Line(s) 14427
Seq#:1171; Line(s) 14894
Seq#:1189; Line(s) 15096
Seq#:1222; Line(s) 15493
Seq#:1225; Line(s) 15533,15538
Seq#:1249; Line(s) 15831
Seq#:1261; Line(s) 15985
Seq#:1273; Line(s) 16116
Seq#:1282; Line(s) 16230
Seq#:1285; Line(s) 16270
Seq#:1294; Line(s) 16388
Seq#:1345; Line(s) 17016
Seq#:1351; Line(s) 17090
```

VERIFICATION SUMMARY   DATE: 09/10/2004
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Input Set : D:\Sequence Listing.txt
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```
L:37   M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:60
L:473  M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:120
L:1064 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:0
L:1065 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:60
L:1067 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:180
L:1068 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:240
L:1070 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:360
L:1586 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:164 after pos.:120
L:1588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:164 after pos.:240
L:1772 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:183 after pos.:60
L:2012 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:207 after pos.:480
L:2968 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:0
L:2969 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:60
L:2970 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:120
L:2977 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:540
L:2979 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:660
L:2980 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:720
L:2981 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:780
L:3009 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:0
L:3015 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:360
L:3016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:420
L:3017 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:480
L:3018 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:540
L:3019 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:600
L:3032 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:312 after pos.:0
L:3035 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:312 after pos.:180
L:3051 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:0
L:3052 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:60
L:3057 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:360
L:3059 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:480
L:3060 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:540
L:3061 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:600
L:3078 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:314 after pos.:240
L:3105 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:316 after pos.:0
L:3113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:316 after pos.:480
L:3114 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:316 after pos.:540
L:3115 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:316 after pos.:600
L:3129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:317 after pos.:0
L:3130 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:317 after pos.:60
L:3131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:317 after pos.:120
L:3138 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:317 after pos.:540
L:3161 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:480
L:3162 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:540
L:3163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:600
L:3164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:660
L:3165 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:720
L:3166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:780
L:3193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:320 after pos.:0
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